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# Activity and Developments at Selected Soviet Missile Support Equipment Research, Development, and Production Facilities

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| INSTALLATION OR ACTIVITY NAME | | | | | COUNTRY |
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| Activity and Developments at Selected Soviet Missile Support Equipment Research and Development and Production Facilities | | | | | UR |
| UTM COORDINATES | GEOGRAPHIC COORDINATES | CATEGORY | BE NO. | COMIREX NO | NIETB NO |
| NA | See below | See below | See below | See below | See below |

MAP REFERENCE

SAC. USATC; Series 200; Sheets 0154-14 and -25; 0161-05; 0167-05, -18, and -19, 0168-14; and 0235-16 and -21; scale 1:200,000

| LATEST IMAGERY USED | NEGATION DATE (If required) |
|---|---|
| | NA |

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| Installation Name | Geographic Coordinates | Category | BE No | COMIREX No | NIETB (MRN No) |
|---|---|---|---|---|---|
| Bronnisty Armored Vehicle Research Facility | 55-26-51N 038-14-27E | | | | |
| Bronnitsy Vehicle Test Area | 52-27-00N 038-08-00E | | | | |
| Bryansk Guided Missile Support Equipment Plant II | 53-17-10N 034-23-45E | | | | |
| Bryansk Road Machinery and Guided Missile Support Equipment Plant I | 53-44-55N 034-23-05E | | | | |
| Gorkiy Armaments Plant Novoye Sormovo Stalin 92 | 56-19-36N 043-53-21E | | | | |
| Kostroma Construction Equipment and Guided Missile Support Equipment Plant | 57-45-34N 040-53-33E | | | | |
| Krasnoyarsk Steel and Heavy Equipment and Missile Support Equipment Plant | 55-59-46N 092-58-51E | | | | |
| Minsk Motor Vehicle and Guided Missile Support Equipment Plant | 53-51-31N 027-39-31E | | | | |
| Orel Road Machinery and Missile Support Equipment Plant | 52-55-12N 036-01-22E | | | | |
| Volgograd Remote Test Facility 1 | 48-55-10N 044-31-19E | | | | |
| Volgograd Remote Test Facility 3 | 48-00-06N 044-34-35E | | | | |
| Volgograd Steel and Machinery Plant Krasnyy Barricada 221 | 48-46-32N 044-34-49E | | | | |

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## ABSTRACT

1. (S) This report updates developments observed at 12 Soviet facilities associated with research and development of missile support equipment (MSE) or with its production/assembly.

2. (TSR) A probable SS-16/-20 transporter-erector-launcher (TEL)/resupply vehicle bearing a probable load simulator was regularly observed at Bronnitsy Armored Vehicle Research Facility, but there was no reportable activity at Bronnitsy Vehicle Test Area. At Bryansk Plant II, production of SS-20 single-bay garage components continued, and, at the plant's test track, a canvas-covered ICBM-size probable missile transporter was observed. The frequent presence of an SS-N-7 crate, an SS-N-3/-12 crate, and a possible new cruise missile crate at Bryansk Plant I is evidence that the plant is still involved with naval missile systems. Production of SA-X-10 launchers and SH-EL-02 engagement radar vans and their transporters continued at Gorkiy Plant 92 which has also been identified as a probable production plant for SA-X-10 resupply transporter chassis. Four- and six-axle vehicle chassis for the SS-16/-20 missile system were still being produced at the Minsk plant. MAZ-938 semitrailers, the vehicle from which SA-5 transporters are made, and chassis for the SA-X-10 transporters are also produced at the plant. The Orel plant continued its involvement with MSE for the SCUD and SA-5 missile systems. SA-X-10-associated transporters are also produced at the plant, which has been involved with that system for at least a year longer than had been previously reported. At Volgograd Plant 221, the appearance of probable MAZ-543 cranes suggests that they may be assembled there along with MSE for the SS-16/-20 and other missile systems. The probability that SS-21 TELs/resupply vehicles are also assembled at this plant was strengthened by their presence at the plant and at Volgograd Remote Test Facility (RTF) 1. And the presence of a probable SS-X-23 TEL/resupply vehicle at Volgograd RTF 3 suggests that Plant 221 may also be involved with that system.

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## INTRODUCTION

4. (TSR) Each of the facilities discussed in this report (Figure 1) has been treated in detail in previous NPIC reports with respect to its location, physical description, security, and historical association with various missile systems. Therefore, the intent of this report is only to update activities and developments that have occurred at these facilities since they were last discussed in NPIC reports published in February 1979[1] and September 1978.[2]

5. (TSR) The reporting period for each facility begins with the day following the end of the previous reporting period[1,2] and ends with a common information cutoff date of 4 April 1980. The reporting periods are as follows:

| | |
|---|---|
| Bronnitsy Research Facility | [redacted] |
| Bronnitsy Test Area | |
| Bryansk II | |
| Bryansk I | |
| Gorkiy 92 | |
| Kostroma | |
| Krasnoyarsk | |
| Minsk | |
| Orel | |
| Volgograd 221 | |
| Volgograd RTF 1 | |
| Volgograd RTF 3 | |

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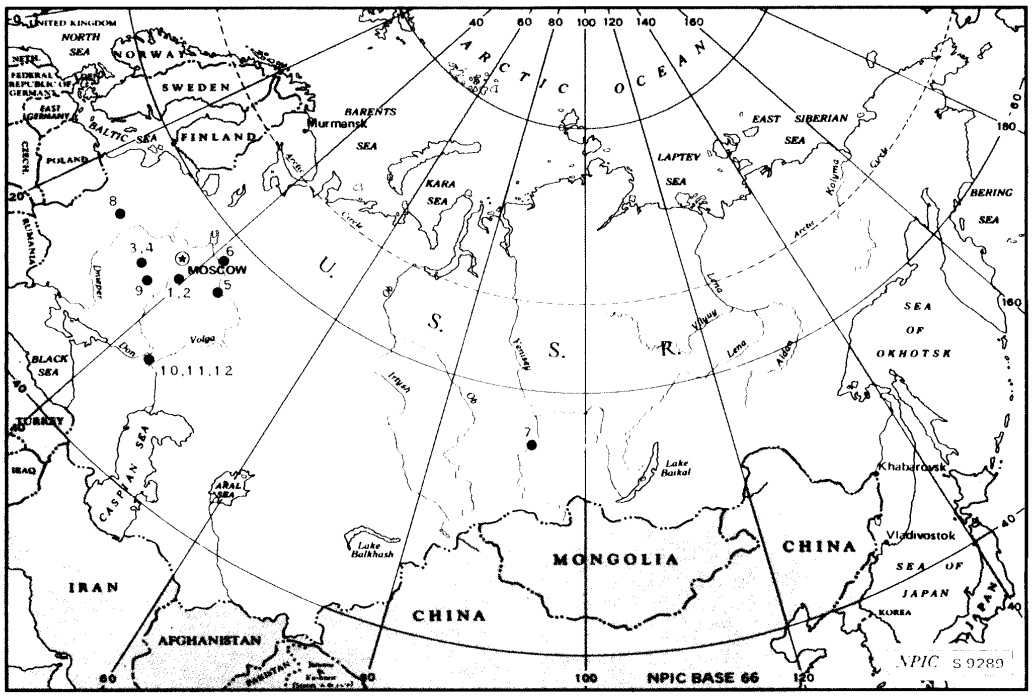


1. BRONNITSY RESEARCH FACILITY
2. BRONNITSY VEHICLE TEST AREA
3. BRYANSK MSE PLANT II
4. BRYANSK MSE PLANT I
5. GORKIY ARMS PLANT 92
6. KOSTROMA MSE PLANT
7. KRASNOYARSK MSE PLANT
8. MINSK MSE PLANT
9. OREL MSE PLANT
10. VOLGOGRAD STEEL PLANT
11. VOLGOGRAD RTF 1
12. VOLGOGRAD RTF 3

**FIGURE 1. LOCATIONS OF SELECTED SOVIET MISSILE SUPPORT EQUIPMENT RESEARCH AND DEVELOPMENT AND PRODUCTION FACILITIES**

 [redacted] 25X1

## BASIC DESCRIPTION

### Bronnitsy Armored Vehicle Research Facility and Bronnitsy Vehicle Test Area

6. (TSR) Although these associated facilities have been described as constituting a major Soviet proving ground for all types of military vehicles,[2] the only specialized equipment identified during this period was a probable SS-16/-20 TEL/resupply vehicle bearing a probable load simulator. Throughout the entire reporting period, the vehicle was regularly observed within the separately secured vehicle storage yard in the maintenance area at the armored vehicle research facility. This could have been the same vehicle that had been present in this storage yard throughout much of 1978 and at the vehicle test area in July and August 1978.[1] At that time, the presence of the vehicle suggested that a program to evaluate the durability of the vehicle after extended use may be in progress[1] or that vehicle modifications had been made and would be tested. The continuing presence of the vehicle throughout much of 1979 does little to alter either suggestion.

7. (TSR) Construction activity was very limited. In the engineering area at the armored vehicle research facility a small shop building with 738 square meters of floorspace was completed between June 1978 and March 1980, and between April and August 1979, a large garage with 1,745 square meters of floorspace was completed at the southeast edge of the same facility.

### Bryansk Guided Missile Support Equipment Plant II

8. (TSR) During this period the plant continued its involvement with SS-4/-5 and SS-7 MSE and SS-11/-19 missile canisters.[1,2] SS-20 single-bay garages continued to be manufactured at Bryansk, which is recognized as the only plant in the Soviet Union where the garages are produced.

9. (TSR) Between April 1976, when garage components were first observed at the plant, and [redacted] the end of this reporting period, a minimum of 240 to 272 garages was fabricated and 228 to 255 garages were shipped out of the plant (Table 1).

10. (TSR) Because Bryansk II has been observed with irregular frequency, a reliable garage production rate has been impossible to determine. But in the four years of plant involvement in the production of SS-20 garages, it has been noted that production tends to peak during the winter months, December to March, and is at its lowest level during summer months, June to August. Whether this very obvious trend is a true indication of production activity or merely reflects a reduction in garage construction in SS-20 areas of deployment during winter months has not been determined. For example, contrary to the apparent seasonal production trend, the number of garage components produced in one month may be equal to the number produced in every other month. If that is so, the presence of a greater number of components within the plant during winter months could be the result of climatic conditions and a consequent reduction in component shipments. Additional production data for the current period is presented in Table 1.

11. (TSR) On [redacted] an unidentified, canvas-covered probable transporter was observed on the oval test track (Figures 2 and 3). The probable transporter, which was being hauled by a probable MAZ-537 truck tractor, was at least 25 meters long and 3 meters wide, which places it in the same general size range as transporters for the SS-7, SS-11, SS-17, and SS-19. The appearance of the front part of it is very similar to that of an unidentified canvas-covered probable transporter observed at the Bryansk Road Machinery and Guided Missile Support Equipment Plant I on [redacted] At Bryansk I, a portion of a canvas-covered probable transporter and its probable MAZ-537 prime mover were at the entrance to the building bay covering the SS-17 load test platform. Its position there indicated that the rear portion of the transporter was inside the building and probably in line with the load test platform. Because SS-17-associated equipment had not been identified at that plant for almost two and one-half years, the presence of the probable transporter suggested that a modification/follow-on to the SS-17 was being developed. During the early 1970s, an unidentified transporter with the same dimensions was regularly observed at Bryansk Plant I.[3] Unfortunately, the presence of the canvas covering on the recently observed probable transporter prevents additional comparisons. 25X1 25X1

12. (TSR) The only other reported instance of a vehicle test on the track was in September 1973. At that time, a probable SS-7 transporter was observed bearing a load simulator [redacted] meters in diameter that was believed to be part of the SS-17 MSE development program which was underway at Bryansk Plant I.[4] 25X1

13. (TSR) Throughout this reporting period, a load simulator, [redacted] long and [redacted] in diameter, was almost always near the north end of the [redacted] high bay of the checkout and shop building (Figure 2). But on [redacted] when the probable transporter was observed on the test track, the load simulator was not present. Prior to that date, it had most recently been seen in its usual location on [redacted] and was again present on [redacted] only two days after the probable transporter had been road tested. But whether it had been aboard the probable transporter as a part of the test or had merely been moved into the nearby high-bay building during that period could not be determined. 25X1 25X1 25X1 25X1 25X1

14. (TSR) The fact that other equipment has not been observed at this track despite its constantly obvious use (i.e., vehicle tracks and snow removal by plows) suggests that, as in other areas of missile system development, a deliberate program of activity concealment has apparently been in force since the track was completed in 1969.

15. (TSR) Details of construction activity, which was rather limited during the period, are presented in Figure 2 and Table 2.

**Table 1.**
**Minimum Number of Single-Bay Garages Fabricated and Shipped From Bryansk Guided Missile Support Equipment Plant II**

*This table in its entirety is classified TOP SECRET RUFF*

| Time Period | Number of Days Between Usable Coverages | Fabricated | | Shipped | |
|---|---|---|---|---|---|
| | | Complete Garages* | Incomplete Garages | Complete Garages* | Incomplete Garages |
| [redacted] | 48 | 1 | 2–3 | 0 | 0 |
| | 5 | 0 | 0 | 0 | 0 |
| | 28 | 2 | 2–3 | 1 | 1 |
| | 29 | 6 | 4 | 1 | 2 |
| | 10 | 4 | 1 | 0 | 0 |
| | 33 | 3 | 2–3 | 3 | 1–2 |
| | 23 | 0 | 2–3 | 1 | 5–6 |
| | 2 | 0 | 2–3 | 2 | 0 |
| | 54 | 3 | 2 | 5 | 2 |
| | 9 | 1 | 5–6 | 0 | 6–7 |
| | 20 | 3 | 4 | 5 | 5–6 |
| | 1 | 0 | 0 | 0 | 0 |
| | 3 | 0 | 1 | 3 | 1 |
| | 9 | 2 | 4–5 | 1 | 4–5 |
| | 1 | 0 | 1 | 0 | 1–2 |
| | 28 | 3 | 3–4 | 4 | 4 |
| | 10 | 2 | 2–3 | 3 | 2–3 |
| | 25 | 2 | 1 | 2 | 3–4 |
| | 13 | 2 | 4–5 | 2 | 1 |
| | 3 | 0 | 1 | 1 | 1–2 |
| | 20 | 2 | 4–5 | 0 | 4–5 |
| | 39 | 0 | 9 | 2 | 6–7 |
| | 64 | 5 | 4–5 | 2 | 7 |
| | 1 | 0 | 0–1 | 0 | 0 |
| | 23 | 3 | 4–5 | 2 | 1–2 |
| | 1 | 0 | 0 | 2 | 0 |
| | 4 | 0 | 0 | 0 | 0 |
| | 31 | 0 | 9–10 | 3 | 5 |
| | 7 | 0 | 2–3 | 0 | 4 |
| | 21 | 0 | 4–5 | 1 | 4–5 |
| | 2 | 0 | 3–4 | 0 | 2 |
| | | 44 | 82–100 | 46 | 72–85 |
| Garages Fabricated and Shipped [redacted] | | 126–144 | | 118–131 | |
| Garages Fabricated and Shipped Prior to [redacted] | | 114–128 | | 110–124 | |
| Minimum Number of Garages Fabricated and Shipped Since Apr 76 | | 240–272 | | 228–255 | |

*Includes 2 stationary end sections and 8 sliding-roof sections.

## Bryansk Road Machinery and Guided Missile Support Equipment Plant 1

16. (TSR) Although Bryansk Plant I is engaged chiefly in the production of road machinery, it also has a history of designing and developing missile support equipment for a variety of naval- and land-based strategic missile systems and possibly for space launch systems. During the reporting period, probable bevel-roofed SS-N-7 crates and probable SS-N-9 and SS-N-3/-12 crates were occasionally present in the separately secured MSE-associated area of the plant. When the same kinds of crates were first observed in the plant in the early 1970s, their presence was attributed to the plant's probable involvement with the development of support equipment for modified versions of those missile systems or for their follow-ons.[5] In the absence of any contrary information, the reasons originally given for their presence in the plant are the same which would be chosen to explain their continuing presence.

17. (TSR) Vehicle tracks and the occasional presence of trucks/prime movers indicate that some activity has been occurring within each bay of the triple-bay building (Figure 4) that was constructed over the SS-17, SS-18, and SS-11/19 load test platforms in 1976–1977. Unfortunately, it could not be determined whether all of that activity was missile related. The load test platforms have not been seen in

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**Table 2.**
**Additions to Bryansk Guided Missile Support Equipment Plant II**
**(Items keyed to Figure 2)**
*This table in its entirety is classified TOP SECRET RUFF*

| Item* | Description Function | Dimensions (m) L | W | H | Floorspace (sq m) | First Seen Ucon | First Seen Complete | Remarks |
|---|---|---|---|---|---|---|---|---|
| 5 | Addition to existing prob shop bldg ucon | 42 | 30 | 16 | 1,260 | Apr 79 | -- | Main portion of bldg complete Jun 77 and included in earlier report[2] |
| 8 | Bldg ucon | | | | | Oct 79 | — | |
| 9 | Admin bldg ucon | 61 | 17 | 16 | 5,186 | Dec 77 | — | 5 stories |
| 10 | Addition to motor pool shop bldg | 41 | 19 | 5 | 779 | Feb 79 | Jan 80 | |

Total completed floorspace - 779 sq m

*Numbering sequence is a continuation of that used in an earlier NPIC report.[2]

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several years and during that period it was not determined whether a) they still exist in their original forms; b) they have been modified or replaced in order to support other missile system development programs; or c) one or more have been removed and the space converted to vehicle storage or other use.

18. (TSR) MSE has not been observed at this plant since the load test platforms were covered. Because equipment has not been observed for this lengthy period, the probability of sighting any new MSE at this plant in the future is not very great.

19. (TSR) Construction activity during this period included the completion of a storage building (item 24, Figure 4 and Table 3) and a personnel bunker (item 25). The approximately 35-acre area at the north end of the plant that had been landfilled and graded by 1974 was being developed as an extension of the plant. A newly completed security wall encloses the area and in its center work was progressing on what may be the first section of a very large building (item 27). A new landfilled area is also at the south end of the plant. The appearance of the area and the presence of a pile driver indicate that a large building is to be constructed there.

**Table 3.**
**Additions to Bryansk Road Machinery and Guided Missile Support Equipment Plant I**
**(Items keyed to Figure 4)**
*This table in its entirety is classified TOP SECRET RUFF*

| Item* | Description/ Function | Dimensions (m) L | W | H | Floorspace (sq m) | First Seen Ucon | First Seen Complete | Remarks |
|---|---|---|---|---|---|---|---|---|
| 24 | Storage bldg | 60 | 25 | 6 | 1,500 | Mar 77 | May 79 | Item but not its floorspace was included in an earlier NPIC report[2] |
| 25 | Personnel bunker | 42 | 18 | | 756 | Aug 76 | Aug 79 | Same remark as for item 24 |
| 26 | Prob bldgs ucon | — | — | — | — | Jun 79 | — | |
| 27 | Unid bldg ucon | 62 | 25 | 9 | — | Jun 79 | — | |
| Total completed floorspace - 2,256 sq m | | | | | | | | |

*Numbering sequence is a continuation of an earlier NPIC report.[2]

**Table 4.**
**Missile Support Equipment Observed at Gorkiy Armaments Plant Novoye Sormovo Stalin 92**
*This table in its entirety is classified TOP SECRET RUFF*

| Date | SA-X-10 Launchers | SH-EL-02 Radar Vans on Trans | SH-EL-02 Radar Van Transporters | MAZ-938 Long-bed Chassis | SAM-Assoc Antenna Trans Trailers | Unid Poss Radar Van | MAZ-543 SP Chassis | BTR-60P | SA-2/-3/-5 Elec Van Trailers |
|---|---|---|---|---|---|---|---|---|---|
| | | | 5 | 16 | 32 | | | | |
| | | | 5 | 16 | 18 | | | | 1 |
| | | | 5 | 19 | 17 | 6 | | | |
| | | | 5 | 19 | 34 | 6 | | | |
| | | | | 15 | 26 | 5 | | | |
| | | | 4 | 20 | 32 | 7 | | | |
| | 7 | | 4 | 12 | 38 | 7 | | | 1 |
| | 9 | 3 | 4 | 23 | 15 | 8 | 2 | | |
| | | | 5 | 7 | 27 | 13 | | | |
| | 20 | 4 | 4 | 1 | 15 | 11 | 1 | 11 | |
| | 8 | 3 | 8 | 9 | 25 | 11 | 1 | 9 | |
| | 4 | 5 | 7 | 16 | 31 | 10 | 3 | 5 | 1 |
| | 6 and 10 new type | 6 | 8 | 16 | 34 | 16 | 3 | | 2 |
| | | | 6 | 12 | 23 | 10 | | | |
| | 4 and 10 new type | 6 | 7 | 12 | 45 | 12 | 3 | | 2 |
| | 2 and 9 new type | 6 | 9 | 18 | 34 | 14 | 3 | | 2 |
| | | | 7 | 18 | 28 | 13 | | | |
| | 9 new type | 5 | | | 1 | | | | |
| | | | 9 | 16 | 35 | 11 | | | |
| | | | 9 | 16 | 33 | 11 | | | |
| | 7 | 6 | 7 | 18 | 54 | 7 | | 4 | |
| | 12 | 8 | 4 | 11 | 26 | 6 | 2 | | |

Note: In many instances, items of equipment observed on a particular day could have been the same items seen on earlier and/or later imagery.

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## Gorkiy Armaments Plant Novoye Sormovo Stalin 92

20. (TSR) In addition to the production of SA-2 FAN SONG and SA-5 SQUARE PAIR antenna transport trailers, this plant is also recognized as the only known plant where SA-X-10 launchers and SH-EL-02 engagement radar vans and their transporters are produced (Figures 5 through 7). Table 4 shows the numbers of each of these pieces of equipment present in the plant during this reporting period as well as other items of equipment including MAZ-938 long-bed chassis* (Figure 7).

21. (TSR) In previous reporting of this plant, such chassis were always identified as SA-X-1-associated chassis, even though their precise function in the SA-X-10 missile system had never been determined. Although the chassis now is confirmed as providing the undercarriage for the SA-X-10 resupply transporter and for the SH-EL-01 radar transporter, it has not been determined why such chassis have been present in the plant from October 1975 to the present in numbers ranging from 1 to 30. Whether they were assembled at this plant or were shipped in from the Minsk Plant, their principal production plant, also also has yet to be determined.

22. (TSR) If the chassis had been received from Minsk, it would most likely be for the purpose of fitting out. To date, however, no completed SA-X-10 resupply or SH-EL-01 radar transporters have been identified at this plant. The continuing presence of the chassis suggests that they are produced at this plant and, as at the Minsk Plant, are shipped elsewhere for completion.

23. (TSR) Of the SA-X-10 launchers observed during this reporting period, ten of the launchers, first seen on [redacted] and on three subsequent occa-

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*For details on the MAZ-938 semitrailer and chassis see paragraphs 30–35 in this report discussing Minsk Motor Vehicle and GMSE Plant.



[redacted]



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sions had redesigned front ends (Figure 6). The rectangular plate joining each side of the front has been replaced by a much narrower cross member at the front and other material which might be very heavy gauge screening. The reason for the modification is not known and whether the change is permanent is not known.

24. (TSR) Also present during this period and always in the east shipping yard were one to three MAZ-543 SP chassis. The reason for their presence has not, as yet, been determined, but, because they always appear to be the same individual vehicles, they are probably not yet involved in any production process.

25. (TSR) Construction activity initiated during this period includes foundation work for a large building at the south edge of the plant. Other construction details are shown in Figure 5 and Table 5.

## Kostroma Construction Equipment and Guided Missile Support Equipment Plant

26. (TSR) This facility consists of two separate plants: Plant 1 which is situated on the south bank of the Volga River (Figure 8) and Plant 2 which is approximately 1 nm south of Plant 1 where SA-6 transloaders are produced.

27. (TSR) During this period, no missile-associated equipment of any kind was identified at either plant and no constructional changes were observed at Plant 2. Details of construction activity at Plant 1 are shown in Figure 8 and Table 6.

## Krasnoyarsk Steel and Heavy Equipment and Missile Support Equipment Plant

28. (TSR) SA-5 transporters have not been identified at this plant since February 1977.[1,2] Prior to that time, SA-5 transporters had been observed in an open transshipment yard for a ten-year period during

**Table 5.**
**Additions to Gorkiy Armaments Plant Novoye Sormovo Stalin 92**
**(Items keyed to Figure 5)**
*This table in its entirety is classified TOP SECRET RUFF*

| Item* | Description/Function | Dimensions (m) L | W | H | Floorspace (sq m) | First Seen Ucon | First Seen Complete | Remarks |
|---|---|---|---|---|---|---|---|---|
| 125 | Prob bldg foundation | | | | | Oct 75 | | |
| 133 | Additions to shop bldg | | | | | | | |
| a | Shop sec | 72 | 29 | 11 | 2,088 | Oct 76 | Mar 78 | |
| b | Admin/engr sec | 24 | 6 | 12 | 432 | Mar 78 | Dec 78 | 3 stories |
| c | Ucon | — | — | — | — | Jul 78 | — | Site formerly occupied by bldg with 676 sq m of floorspace |
| d | Ucon | — | — | — | — | May 79 | — | |
| 139 | Bldg ucon | | | | | Sep 76 | — | |
| 144 | Support bldg | 30 | 13 | — | 1,170 | Feb 74 | Dec 78 | 3 stories |
| 145 | Admin/engr bldg | 133 | 18 | 41 | 23,940 | Oct 75 | Apr 78 | 10 stories |
| 149 | Addition to support bldg | 11 | 6 | 3 | 66 | Jul 77 | Apr 78 | |
| 151 | Storage tanks (6) | | | | | Sep 76 | Mar 79 | |
| | 2@ | | 13 (diam) | 10 | | | | |
| | 2@ | | 9 (diam) | 9 | | | | |
| | 2@ | | 7 (diam) | — | | | | |
| 152 | Cistern & pumphouse | | | | | Jul 77 | Apr 78 | |
| a | Covered cistern | 10 | 10 | 6 | — | | | |
| b | Pumphouse | 26 | 7 | 4 | 182 | | | |
| 153 | Cooling tower | 17 | 8 | 10 | — | Jul 77 | Apr 78 | |
| 154 | Fabrication bldg | | | | 13,860 | Nov 75 | Sep 77 | |
| a | Fab sec | 179 | 60 | 14 | 10,740 | | | |
| b | Admin/engr sec | 60 | 13 | 14 | 3,120 | | | 4 stories |
| 155 | Bldg ucon | — | — | — | — | May 79 | — | Construction is on a site formerly occupied by 4 bldgs with combined floorspace of 4,189 sq m |
| 156 | Support bldg | 23 | 9 | — | 207 | Mar 79 | Mar 80 | |
| 157 | Addition to shop bldg | 37 | irreg | 11 | 484 | Mar 78 | Jun 79 | |
| 158 | Admin bldg | 38 | 10 | — | 1,140 | Mar 78 | Nov 78 | 3 stories |
| 159 | Unid bldg | | | | | Aug 77 | — | |
| a | | 37 | 19 | 15 | — | | | |
| b | | 19 | 9 | 13 | | | | 3 stories |
| 160 | Shop | 31 | 25 | 6 | 775 | Jun 78 | Aug 79 | |
| 161 | Bldg ucon | — | — | — | — | Mar 79 | — | |
| 162 | Bldg ucon | — | — | — | — | Apr 78 | — | |
| 163 | Prob bldg ucon | — | — | — | — | Jun 79 | — | |
| 164 | Support bldg | 32 | 12 | 3 | 384 | — | Apr 78 | |
| 165 | Bldg ucon | — | — | — | — | Apr 78 | — | Although bldg is shown outside plant boundary it prob is part of plant and will be enclosed by a fence/wall |
| Total completed floorspace - | | | | | 44,728 | | | |
| Floorspace contained in razed bldgs - | | | | | 4,865 | | | |
| Net total - | | | | | 39,863 sq m | | | |

*Numbering sequence is a continuation of that used in an earlier NPIC report.[3]

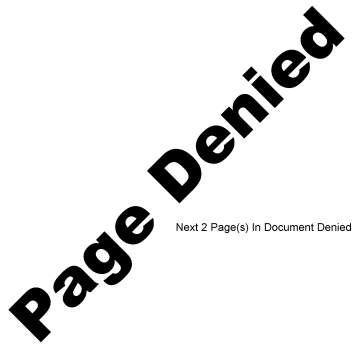


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**Table 7.**
**Additions to Krasnoyarsk Steel and Heavy Equipment and Missile Support Equipment Plant**
**(Items keyed to Figure 9)**
*This table in its entirety is classified TOP SECRET RUFF*

| Item* | Description/Function | Dimensions (m) L | W | H | Floorspace (sq m) | First Seen Ucon | First Seen Complete | Remarks |
|---|---|---|---|---|---|---|---|---|
| 84 | Additions to fab/assem bldg | | | | 24,012 | | | |
| a | | 288 | 73 | 16 | 21,024 | Feb 77 | Nov 79 | |
| b | | 83 | 36 | 16 | 2,988 | Jan 79 | Apr 79 | |
| 85 | Additions to fab/assem bldg | | | | 5,901 | | | |
| a | | 73 | 61 | 23 | 4,453 | Sep 77 | Feb 78 | |
| b | | 19 | 12 | 16 | 228 | Feb 78 | Feb 78 | |
| c | | 61 | 10 | 24 | 1,220 | Sep 77 | Feb 78 | 2 stories |
| 86 | Addition to shop ucon | — | — | — | — | Feb 76 | | |
| 89 | Additions to sawmill carpentry shop | | | | 3,934 | | | |
| a | | 9 | 6 | 9 | 54 | Sep 77 | Feb 78 | |
| b | | 61 | 18 | 11 | 1,098 | Feb 77 | Feb 78 | |
| c | | 61 | 21 | 11 | 1,281 | Jul 78 | Feb 79 | |
| d | | 25 | 19 | 10 | 475 | Apr 78 | Feb 79 | |
| e | | 51 | 9 | 5 | 1,026 | May 78 | Oct 78 | 2 stories |
| 90 | Admin/engr bldg | | | | 5,171 | | | |
| a | | 64 | 20 | 17 | 5,120 | Feb 77 | Apr 79 | 4 stories |
| b | Covered passageway | 17 | 3 | — | 51 | — | Dec 79 | |
| 91 | Storage bldg | 106 | 21 | — | 2,226 | Sep 77 | Apr 78 | |
| 92 | Gantry crane | | | | | | | Previous NPIC report[2] listed this as a structure ucon |
| 93 | Unid bldg | 108 | 32 | 17 | 3,456 | Feb 76 | Nov 79 | Floor of bldg has checkerboard pattern of 20 rectangular pits |
| 94 | Admin bldg | 60 | 16 | 25 | 5,760 | Feb 77 | — | 6 stories; only the roof appears to be incomplete |
| 95 | Support bldg | 42 | 18 | 8 | 756 | Sep 77 | Jun 79 | May contain an underground personnel bunker |
| 96 | Poss bldg site | — | — | — | — | | | Previous NPIC report listed this as prob footings ucon[2] |
| 97 | Addition to shop ucon | — | — | — | — | Jan 80 | — | Four small bldgs with combined floor-space of 832 sq m were razed to allow for addition |
| 98 | Prob pumphouse | 37 | 13 | 6 | 481 | Sep 77 | Sep 78 | |
| 99 | Utility bldg | 16 | 9 | 3 | 144 | Jan 79 | Feb 79 | |
| 100 | Storage tanks (10) | [redacted] | 3 (diam) | — | — | Feb 79 | Jan 80 | |
| 101 | Support bldg | 36 | 24 | 8 | 864 | Jul 79 | Dec 79 | |
| 102 | Unid bldg | 89 | 18 | 8 | 3,204 | Jul 79 | — | 2 stories |
| 103 | Personnel bunker | 17 | 17 | — | 289 | Jan 73 | Dec 74 | Access ramp is [redacted] long and [redacted] wide |
| 104 | Bldg ucon | — | — | — | — | Apr 79 | — | |
| 105 | Bldg ucon | — | — | — | — | Nov 79 | — | |
| 106 | Utility bldg | 31 | 6 | 4 | 186 | Apr 79 | Nov 79 | |
| 107 | Support bldg | 31 | 12 | 5 | 372 | Apr 79 | May 79 | |
| 108 | Support bldg | 30 | 13 | 5 | 390 | Apr 78 | Jun 79 | |
| 109 | Support bldg | 42 | 16 | 6 | 672 | Apr 78 | Aug 79 | |
| 110 | Support bldg | 30 | 6 | 4 | 180 | Apr 78 | May 79 | |
| 111 | Storage bldg | 157 | 48 | 12 | 7,536 | Feb 78 | Feb 79 | 3 bldgs with combined floorspace of 1,183 sq m were razed to provide space for this bldg |
| 112 | Utility bldg | 21 | 7 | 3 | 147 | Sep 77 | Feb 78 | |
| 113 | Addition to bldg ucon | — | — | — | — | Feb 80 | — | |
| 114 | Addition to bldg ucon | — | — | — | — | Dec 79 | — | |
| 115 | Unid bldg ucon | — | — | — | — | Jul 79 | — | |
| Total completed floorspace - | | | | | 65,681 | | | |
| Floorspace Contained in razed bldgs - | | | | | 2,015 | | | |
| Net total | | | | | 63,666 | | | |

*Numbering sequence is a continuation of that used in an earlier NPIC report.[2]

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**Table 8.**
**Additions and Changes to Minsk Motor Vehicle and Guided Missile Support Equipment Plant**
**(Items keyed to Figure 10)**

*This table in its entirety is classified TOP SECRET RUFF*

| Item* | Description/Function | Dimensions (m) L | W | H | Floorspace (sq m) | First Seen U/con | First Seen Complete | Remarks |
|---|---|---|---|---|---|---|---|---|
| 9 | Fab/assem bldg | — | — | — | 42,728 | Mar 77 | Nov 79 | |
| a | Fab sec | 218 | 84 | 22 | 18,312 | Mar 77 | Nov 79 | |
| b | Technical support sec | 218 | 13 | 24 | 8,502 | Mar 77 | Dec 78 | 3 story |
| c | Assem sec | 218 | 73 | 16 | 15,914 | Mar 77 | Aug 78 | |
| 10 | Addition to existing support bldg | 61 | 25 | 9 | 1,525 | Mar 77 | Mar 78 | |
| 11 | Addition to existing shop | | | | 4,660 | May 77 | Jun 78 | |
| a | Shop | 73 | 52 | 15 | 3,796 | | | |
| b | Admin sec | 36 | 12 | 7 | 864 | | | 2 story |
| 12 | Prob rolling stock maint bldg | | | | 906 | Sep 77 | Nov 78 | |
| a | Maint sec | 67 | 13 | 10 | 871 | | | |
| b | Utility sec | 7 | 5 | 3 | 35 | | | |
| 13 | Admin/engr bldg | — | — | — | — | — | — | Previous NPIC report[2] reported this bldg as being a part of the plant; floorspace of 1,006 sq m will be deducted from updated total |
| 14 | Storage bldg | 90 | 13 | 7 | 1,170 | May 77 | Mar 78 | |
| 15 | Poss vehicle test bldg | 223 | 19 | 11 | 4,237 | Jun 78 | Aug 79 | See previous NPIC report[1] for a detailed discussion of this bldg |
| 16 | Support bldg | 24 | 12 | 6 | 288 | Dec 78 | Aug 79 | |
| 17 | Admin/engr bldg | | | | | | | |
| a | Engr sec | 55 | 25 | 7 | 2,750 | Oct 77 | Oct 78 | 2 stories |
| b | Admin sec | 73 | 25 | 18 | 9,125 | Oct 77 | Jan 80 | 5 story |
| c | Sec ucon | 55 | 25 | — | — | Oct 77 | — | |
| 18 | Addition to existing support bldg | 34 | 9 | 4 | 306 | Jun 79 | Aug 79 | |
| 19 | Admin/engr sec of existing forge | 73 | 13 | 18 | 4,745 | Mar 78 | Nov 79 | Original admin/engr section on same site was razed and construction of new section begun between Sep 77 and Mar 78; total new floorspace for plant reflects appropriate adjustment; number of stories in present structure is unknown but height indicates 5 stories are present; floorspace shown is for 5 stories |
| 20 | Bldg ucon | 144 (approx dimen) | 120 | | — | Mar 77 | — | |
| 21 | Addition to assem bldg ucon | — | — | — | — | Aug 79 | — | |
| Total | | | | | 72,440 | | | |
| Correction for item 13 | | | | | −1,006 | | | |
| Correction for item 19 | | | | | −1,165 | | | |
| Total completed floorspace | | | | | 70,269 | | | |

*Numbering sequence is a continuation of that used in an earlier NPIC report.[2]

(Figure 12). Although previously identified as SA-5 transporter chassis, it has been determined that these chassis are used for the SA-X-10 resupply transporter which, without its canister storage rack, is also used to transport the SA-X-10 acquisition radar, the SH-EL-01. Because no completed SA-X-10-associated transporters have been identified at this plant, all of the chassis are probably shipped to other plants where they are fitted-out.

35. (TSR) Details of construction activity during this period are shown in Figure 10 and Table 8.

## Orel Road Machinery and Missile Support Equipment Plant

36. (TSR) Road graders, tractors, SCUD resupply transporters, SA-5 transporters, and SA-X-10-associated transporters have been identified at this plant in numbers sufficient to indicate that the plant is involved in some aspect of their production/assembly/fitting-out.

37. (TSR) During this reporting period, a total of 24 canvas-covered probable SCUD resupply trans-





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porters, one SA-X-10-associated transporter, and one probable and four possible SA-X-10-associated transporters were identified.

38. (TSR) Also present were 21 confirmed and 55 probable MAZ-938 semitrailers. When previously observed at this plant, all MAZ-938s were identified as SA-5 transporters even though the majority of them had not been appropriately modified for SA-5 system use. Whether these vehicles were completely manufactured at this plant and eventually modified or were received for modification from the Minsk Motor Vehicle and Guided Missile Support Equipment (GMSE) Plant, the principal production plant, has not been determined.

39. (TSR) Although SA-X-10-associated transporters were first identified at this plant in May 1977, the plant has been involved with that missile system at least since April 1976 when MAZ-938 long-bed chassis were first observed. Prior to this reporting period, all such chassis had been identified as SA-5 transporter chassis. Now that it has been determined that they provide the undercarriage for the SA-X-10-associated transporter, any previous production estimates of SA-X-10 MSE at this plant will require major revision.

40. (TSR) During this reporting period, 19 confirmed and 13 probable MAZ-938 long-bed chassis were observed but, as in the case of the MAZ-938 semitrailers, it could not be determined whether the chassis were produced at this plant or were shipped in for completion from another plant such as Gorkiy Armaments Plant or Minsk Motor Vehicle and GMSE Plant.

41. (TSR) No construction activity of any kind was observed during this period.

### Volgograd Steel and Machinery Plant Krasnyy Barricada 221

42. (TSR) From the very early beginnings of the SS-16/-20 development programs, this plant has been recognized as one of the major production plants for support equipment associated with those systems. It also has a history of involvement with the SHADDOCK, FROG, SCUD, and SCALEBOARD missile systems.[9]

43. (TSR) More recently, the appearance of SS-21 TEL/resupply vehicles in the plant and at RTF 1, and the appearance of a probable SS-23 TEL/resupply vehicle at RTF 3 indicates that the plant probably is also involved with those systems.

44. (TSR) On [redacted] a 16-meter-long van truck was in yard A. Except for its length, its general appearance was the same as that of the [redacted] meter van truck known to be associated with the SS-16/-20 missile systems. This is the first and only instance of the appearance of a van truck of this length; whether the plant is engaged in assembling still another addition to the already large inventory of SS-16/-20-associated MSE has not been determined.

45. (TSR) Beginning in October 1979 and continuing throughout this reporting period, probable MAZ-543 cranes have been observed in storage yard A (Figure 13). Although MAZ-543 cranes had not previously been identified at this plant, their presence could mean it is now responsible for their assembly.

46. (TSR) Table 9 provides a list of equipment observed at Plant 221 during this reporting period. No attempt was made to determine whether the equipment observed on a particular day was the same item seen on any other day. In many instances, the equipment probably was the same but to determine this conclusively is not possible.

47. (TSR) All construction activity currently in progress was initiated prior to this reporting period.

### Volgograd Remote Test Facility 1

48. (TSR) Very little activity was observed at this facility during the reporting period. Of the three SS-16/-20-associated six-axle chassis that had been present since 1977, one was removed between February and April 1979 and two more were removed between October 1979 and March 1980.

49. (TSR) On [redacted] a canvas-covered vehicle was at the west end of the small test track. It was approximately [redacted] These dimensions and the general configuration of the vehicle suggest that it was an SS-21 TEL/resupply vehicle, examples of which have been seen at this facility in the past but only on rare occasions.

50. (TSR) No construction activity of any kind was observed.

### Volgograd Remote Test Facility 3

51. (TSR) The six-axle canvas covered chassis usually observed at this facility was present throughout the reporting period as were the two probable derelict vehicles whose presence had been previously reported.

52. (TSR) On [redacted] a probable SS-X-23 TEL/resupply vehicle was also seen in the same gully occupied by the derelict vehicles. This is the first time that one of these vehicles is being reported at this facility and its presence provides an indication that SS-X-23-associated vehicles may be assembled/fitted-out at Plant 221.

53. (TSR) On [redacted] an SS-16/-20 TEL/resupply vehicle bearing an 18-meter-long probable canister was present as was a large rectangular object (Figure 14). The object was approximately [redacted] A dark circular area, [redacted] in diameter, was at one end of its chamfered roof and [redacted] projection extended from the bottom of the opposite end. When observed on 13 subsequent occasions through [redacted] the object consistently appeared to remain in its original position. Whether the object was a mockup of a

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**Table 9.**
**Missile Associated Equipment Observed at Volgograd Steel and Machinery Plant Krasnyy Barricada 221**

*This table in its entirety is classified TOP SECRET RUFF*

| Date | MAZ 6-Axle Chassis | [redacted] Meter Van Trucks | Meter Van Trucks | MAZ-543 Chassis | MAZ-543 SP Chassis | MAZ-543 Cranes | SS-21 TEL/ Resupply Vehicles | ZIL-135 Chassis |
|---|---|---|---|---|---|---|---|---|
| | 1 | 1 | | | | | | |
| | | 1 prob | | | | | | |
| | | 1 prob | | | | | | 1 |
| | | | | | | | | 2 |
| | | | | | | | | 1 |
| | | | | | | | | 2 |
| | 2 | | | | 1 | | 1 prob | 1 |
| | | | | | 1 | | | 1 |
| | | | | | | | 1 poss | 2 poss |
| | 1 | | | | | | | |
| | 1 | | | | 1 | | | |
| | | 1 prob | | | | | | |
| | 1 | | | | | | | |
| | 2 poss | | | | | | | |
| | 3 prob | | | | | | | |
| | 1 | | | 1 prob | 1 prob | | | 1 prob |
| | | 1 prob | | | 1 prob | | | |
| | 3 | | 1 | | | | | |
| | 3 | | | | 1 | | | |
| | 2 | | | | | | | |
| | | 1 | | | | | | |
| | 2 | | | | | | 2 poss | 1 poss |
| | 2 | | | | | | | |
| | 3 | | | | 1 | 1 prob | | |
| | 2 | | | | | 2 prob | | |
| | | | | | | 2 prob | | |
| | 3 | | | 2 | | 3 prob | | |
| | 1 poss | | | | | | | |
| | 1 | | | 2 | | 3 prob | | |
| | 2 | | | 1 prob | 1 prob | | | |

vehicle or the van body component of an SS-16/-20-associated MAZ-543 missile support van (MSV) variant containing a roof-mounted blister or turret has not been determined. Such vehicles have been seen at the Kapustin Yar General Support Area [redacted] and in other areas of the Soviet Union but had not been reported at this facility or any other facility in the Volgograd area.

54. (TSR) During August 1979, a second security fence was constructed inside the original fence, and, throughout the reporting period, construction activity continued on the road in the streambed as well as on pad C (Figure 15). At pad C, which is 100 meters long and 50 meters wide, the paving appeared to be complete by September 1979, and by [redacted] low retaining walls along the north and south edges of the pad were nearly complete.

55. (TSR) The construction of the three pads, and the improvement of the streambed road linking them with each other as well as with the test facility have long caused much speculation as to the purpose of this activity, which is still not known.

## REFERENCES

### IMAGERY

(TSR) All relevant KEYHOLE imagery acquired between [redacted] the information cutoff date, was used in the preparation of this report. 25X1

### MAPS OR CHARTS

SAC. US Air Target Chart; Series 200; Sheets 0154-14 and -25; 0161-05; 0167-05, -18, and -19; 0168-14; and 0235-16 and -21; scale 1:200,000 (UNCLASSIFIED)

### DOCUMENTS


1. NPIC. [redacted], RCA-09/0003/79, *Developments at Selected Soviet Missile Support Equipment Research and Development and Production Facilities (S)*, Feb 79 (TOP SECRET [redacted]) 25X1 25X1
2. NPIC. [redacted] RCA-09/0020/78, *Developments at Selected Soviet Missile Support Equipment Research and Development and Production Facilities (S)*, Sep 78 (TOP SECRET [redacted]) 25X1 25X1
3. NPIC. [redacted] RCA-09/0006/72, *Bryansk Road Machinery and Guided Missile Support Equipment Plant*, Aug 71 (TOP SECRET R) 25X1
4. NPIC. [redacted] RCA-09/0070/75, *Bryansk Guided Missile Support Equipment Plant II*, Jun 75 (TOP SECRET [redacted]) 25X1 25X1
5. NPIC. [redacted] RCA-09/0060/75, *Bryansk Road Machinery and Guided Missile Support Equipment Plant 1*, Apr 75 (TOP SECRET [redacted]) 25X1 25X1
6. NPIC. [redacted] RCA-09/0028/76, *Krasnoyarsk Steel and Heavy Equipment and Missile Support Equipment Plant*, Jul 76 (TOP SECRET [redacted]) 25X1 25X1
7. NPIC. [redacted] RCA-09/0021/76, *Minsk Motor Vehicle and Guided Missile Support Equipment Plant*, Apr 76 (TOP SECRET [redacted]) 25X1 25X1
8. US Dept of Commerce. JPRS 56726, *Concise Handbook of Soviet Motor Vehicles and Trailers*, Aug 72 (UNCLASSIFIED)
9. NPIC. [redacted] SR-018/78, *New Probable SA-X-10 Resupply Transporter, USSR (TSR)*, Feb 78 (TOP SECRET [redacted]) 25X1 25X1
10. NPIC. [redacted] RCA-09/0017/76, *Volgograd Steel and Machinery Plant Krasnyy Barricada*, Nov 75 (TOP SECRET [redacted]) 25X1 25X1


*Extracted material is TOP SECRET [redacted] 25X1

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### REQUIREMENT

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(S) Comments and queries regarding this report are welcome. They may be directed to [redacted] Soviet Strategic Forces Division, Imagery Exploitation Group, NPIC, [redacted] 25X1 25X1

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